

Vara Technology provides complete Agriculture IOT solution using IOT Gateways and IOT Sensor Nodes including Irrigation Pump Controller

Customer Requirements:

The client wanted to implement IOT in Agriculture to improve the yield, reduce the input costs, and manage the agriculture produce for the farmers.

Problems:

The current agricultural practices are plagued with a few major problem areas that needs serious technology intervention

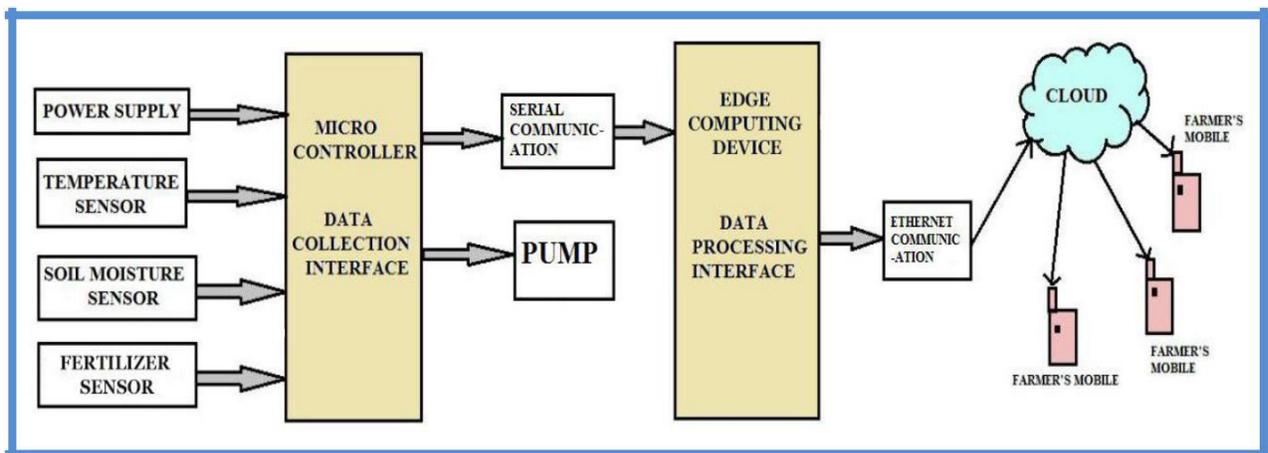
PROBLEM 1 – The per acre farm output is meagre and does not match with the food demand and land usage economics

PROBLEM 2 – The irrigation water demand is hugely unbalanced and is assuming the shape of disaster with continuous reduction in natural water table

PROBLEM 3 – The cost of water has a huge negative impact on the bottom line, overwatering reduces crop quality and increases cost of the farming process in terms of energy and other factors

PROBLEM 4 – The manpower resource involved in manual farming process is an unwanted loss to the economy and there is shortage of skilled labour required to uplift quality of farming

Solution Approach – LoraWan or NBloT, Sensors, Cloud and AI & Analytics to Migrate to Knowledge Based Agriculture



Cognitive IoT for Precision Farming:

- A. Real Time Sensing of Critical parameters affecting the crop output on as demand basis through intelligent sensors.
- B. Optimal control of agricultural inputs backed by remote analytics
- C. Actuating the irrigation pumps to irrigate the farmlands

Benefits:

- A. Prevent unforeseen crop loss
- B. Increase crop yield
- C. Increase bottom line by providing simulation for optimal usage input items

Intelligent Agriculture using Internet of Things (IoT) is the next revolution in Agriculture and will significantly change the way farming is done today. It is now proven that better access to data on real time, such as, Soil Moisture, Soil Temperature, Air Temp, Humidity, N,P, K and pH and other micro-nutrients ensures informed decision making for the farming practice, thereby achieving

1. Quality Crop Output
2. Optimal Use of Water
3. Optimal use of Fertilizers & Pesticides
4. Increased Bottom line
5. Reduced Uncertainty and variability of produce
6. Better yield in relatively arid regions



Technology Used:

Type of Sensors Integrated

1. Drone Based Imagery Support
2. IoT Based Node and Gateway
3. LoraWan and Narrow Band IoT
4. Temperature Sensor
5. Humidity Sensor
6. Wind Sensor
7. Soil Temperature Sensor
8. Soil moisture Sensor
9. Water leakage sensor
10. Pressure Sensor
11. Water Pump Controller (Edge Device)

Implementation

